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EXAMINER JIANG, CHARLES C				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

**Application No.**

10/579,733

**Applicant(s)**

INOUE ET AL.

**Examiner**

CHARLES C. JIANG

**Art Unit**

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 May 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 05/18/2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-850)  
Paper No(s)/Mail Date 05/18/2006, 01/14/2009  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: in figure 2, numbers 10 and 18 are missing for their respective elements, wireless communication terminal and map display client. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: IMPROVING SEAMLESS HANDOVER  
THROUGH GLOBAL POSITIONING SYSTEM IN A MULTI-NETWORK WIRELESS  
COMMUNICATION SYSTEM.

***Claim Objections***

3. Claim 1 is objected to because of the following informalities: at least two typographical errors should be corrected. Claim 1, paragraph 1, line 2, "anable"; Claim 1, paragraph 3, "therebetween". Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shah, US 2004/0023652, in view of Hundscheidt, US 2007/0243821, further in view of Giaffreda, US 2005/0154774.

7. As per claim 1, Shah teaches a wireless communications system which uses at least two kinds of wireless communication networks (Shah, Fig 2, Elements 33, 37, 25, and 40, Paragraphs 58, 59, there is a mobile network between mobile device 33 and base station 25 and a local network between the two mobile devices 33 and 37),

enables to simultaneously connect to a basic access network for executing signaling communication in which communication is controlled so as to be continuously switched (Shah, Paragraph 51-55, mobile network) and to a wireless access network for executing data communications other than the signaling communication (Shah, Paragraph 38, "multiple types of wireless radio access networking") and comprises wireless communication terminals (Shah, Fig. 2, Element 33 and Fig. 1C, Element 10a-e) and a wireless communication server (Shah, Fig. 2, Elements 25 and 27), characterized in that: each of the wireless communication terminals (Previously Discussed) comprises a seamless application processing unit for executing connection processing to the basic access network and connection/disconnection processing to and from the wireless access network (Shah, Paragraphs 40, 64), a basic access network client processing unit having a client function in the signaling communication (Shah, Fig. 1C, Elements 10b and 13, Paragraph 39, 43, the personal communicator signals to the base station), ... respective network devices corresponding to the respective wireless communication networks (Shah, Paragraph 39, Bluetooth), and wireless communication terminal position obtaining means (Shah, Paragraph 50, GPS); ... a basic access network server processing unit (Shah, Fig. 1C, Elements 12, 15, Paragraph 43) for notifying, when the wireless communication networks are continuously switched, the wireless communication terminals of a wireless communication network acting as a switching candidate (Shah, Paragraph 43, handover request, *see also*, Paragraph 45), ... and a preference setting table for managing the order of the wireless communication networks acting as switching candidates when the

wireless Communication networks are continuously switched (Shah, Paragraphs 24-25 and 41, the cited paragraphs of Shah teaches selectively move from one network to another, based on a priority of quality of service), wherein the basic access network client processing unit (Previously Discussed) obtains position information (Shah, Paragraph 50, first sentence) from the position obtaining means (Previously Discussed) and notifies the basic access network server processing unit (Previously Discussed) of the position information (Shah, Paragraph 50, second sentence); and the basic access network server processing unit (Previously Discussed) registers the position information (Shah, Paragraph 50, second sentence, Shah teaches sending the position information, obtained from the GPS from the mobile terminal, to a base station) ...

8. Shah does not teach ... a multicast communication node application processing unit for setting multicast reception, ... and the wireless communication server comprises a home agent application processing unit for setting a multicast transmission using at least the two kinds of the wireless communication networks, ... to the terminal status table.

9. However, Hundscheidt teaches ... a multicast communication node application processing unit for setting multicast reception (Hundscheidt, Fig. 2, multicast, Paragraph 25) using at least the two kinds of the wireless communication networks (Hundscheidt, Fig. 1 and 2), ... and the wireless communication server comprises a home agent application processing unit for setting a multicast transmission using at least the two kinds of the wireless communication networks (Hundscheidt, Fig. 8, Elements 15 and 82, Fig. 9, Paragraphs 42-44), ... for managing the signaling communication for

communicating the status of the respective wireless communication terminals therebetween (Hundscheidt, Fig. 1, UTRAN), and for managing the registration/update processing of the respective wireless communication terminals (Hundscheidt, Fig. 1, SGSN, HLR and CGF), a terminal status table for managing the status of the respective wireless communication terminals (Hundscheidt, Fig. 1, HLR, although Hundscheidt's specification does not disclose anything specific regarding the HLR, the Examiner takes official notice that it is common knowledge that HLR would store terminal status information, *see also*, Srinivasan, US 2002/0022488, Fig. 1, Elements 23 and 24, Paragraphs 35-36), ... to the terminal status table (Hundscheidt, Fig. 1, Element HLR, the HLR as a database can store the position information of the mobile terminals)

10. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teaching of Hundscheidt into Shah. Since Shah suggests seamless handover for a multi network radio communication system with the help of GPS, and Hundscheidt also suggests multicast for a multi network radio communication system, as it is becoming standard in the Third Generation Partnership Project (Hundscheidt, Paragraph 2) and Hundscheidt better illustrates the elements of a radio access network (Hundscheidt, Fig. 1) in more detail than Shah, in the analogous art of radio communication technology.

11. Shah and Hundscheidt do not teach ... a terminal configuration table for managing wireless communication network interfaces implemented in the respective wireless communication terminals ... However, Gaffreda teaches ... a terminal configuration table for managing wireless communication network interfaces

implemented in the respective wireless communication terminals (Giaffreda, Paragraph 105, network device profile), ...

12. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teaching of Giaffreda into Shah, Hundscheidt and Srinivasan. Since Shah, Hundscheidt and Srinivasan suggest seamlessly handover a wireless communication device over multiple networks, and Giaffreda suggests keeping a profile of the capabilities of the devices on the network (Giaffreda, Fig. 4, Elements 250 and 260), in the analogous art of radio communication technology.

13. As per claim 3, Shah, Hundscheidt and Giaffreda teach the wireless communications system according to claim 1 (Previously Discussed), wherein: the wireless communication server (Previously Discussed) comprises two servers (Hundsteidt, Fig. 1, SGSN, content provider and multicast source) of a home agent server (Hundsteidt, Fig. 1, SGSN and HLR) comprising the home agent application processing unit (Previously Discussed) and the basic access network server processing unit (Previously Discussed), and a resource server (Hundsteidt, Fig. 1, content provider and multicast source) comprising the terminal status table (Previously Discussed), the terminal configuration table (Previously Discussed), and the preference setting table (Previously Discussed); and the basic access network server processing unit (Previously Discussed) obtains or registers the information (Previously Discussed) in the respective tables (Previously Discussed) of the resource server (Previously Discussed) through a wired or wireless communication network (Hundsteidt, Fig. 1, Ga and Gi).



14. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shah, US 2004/0023652, in view of Hundscheidt, US 2007/0243821, Giaffreda, US 2005/0154774, as applied to claims 1 and 3 above, further in view of Phelan, USPN 6,240,360 and Chou, USPN 6,327,533.

15. As per claim 2, Shah teaches a wireless communications system according to claim 1 (which is rejected as being unpatentable over Shah, US 2004/0023652, in view of Hundscheidt, US 2007/0243821, further in view of Giaffreda, US 2005/0154774), characterized in that: the wireless communication terminal (Shah, Fig. 2, Element 33 and Fig. 1C, Element 10a-e) comprises ... and the wireless communication server (Previously Discussed) comprises ... of the wireless communication terminal (Shah, Fig. 2, Element 33 and Fig. 1C, Element 10a-e)

16. Shah does not teach ... from the terminal status table ... However, Hundscheidt, teaches ... from the terminal status table (Hundscheidt, Fig. 1, HLR) ...

17. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teaching of Hundscheidt into Shah. Since Shah suggests seamless handover for a multi network radio communication system with the help of GPS, and Hundscheidt also suggests multicast for a multi network radio communication system, as it is becoming standard in the Third Generation Partnership Project (Hundscheidt, Paragraph 2) and Hundscheidt better illustrates the elements of a radio access network (Hundscheidt, Fig. 1) in more detail than Shah, in the analogous art of radio communication technology.

18. Shah and Hundscheidt do not teach ... a map display client application processing unit for displaying at least the current position periphery map of the wireless communication terminal; ... an image creation processing unit for creating the map image of an optional position referring to at least previously prepared map data and a map display server application processing unit for sending the map image to the wireless communication terminal, wherein when the map display server application processing unit receives a map image creation request from the map display client application processing unit, the map display server application processing unit ... and the periphery map image created by the image creation processing unit ... and further sent to the map display client application processing unit as a response.

19. However, Phelan teaches ... a map display client application processing unit for displaying at least the current position periphery map of the wireless communication terminal (Phelan, Col 2, Liens 36-38); ... an image creation processing unit for creating the map image of an optional position referring to at least previously prepared map data (Phelan, Col 2, Lines 19-25) and a map display server application processing unit for sending the map image to the wireless communication terminal (Phelan, Col 2, Lines 32-35), wherein when the map display server application processing unit receives a map image creation request from the map display client application processing unit (Phelan, Col 2, Lines 31-32), the map display server application processing unit (Previously Discussed) ... and the periphery map image created by the image creation processing unit (previously discussed) ... and further sent to the map display client application processing unit as a response (Previously Discussed).

20. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teaching of Phelan into Shah and Hundscheidt. Since Shah, Hundscheidt and Giaffreda suggest a system of integrating GPS into a cellular network, whereby a mobile user's position data is kept at a central database, and Phelan suggests a mobile client on a cellular network, (Phelan, Col 8, Line 5), whereby the mobile user can retrieve map information from a central database in the analogous art of radio communication technology.

21. Shah, Hundscheidt, and Phelan do not teach ... obtains the position information ... and sends a periphery map image creation request to the image creation processing unit together with the position information; ... is returned to the map display server application processing unit ...

22. However, Chou teaches ... obtains the position information (Chou, Fig. 5, Element 501, Col 10, Lines 10-11, see, Fig 3 and corresponding disclosure: object history files contain position data of tracked objects, *see also*, Col 11, Lines 1-2) ... and sends a periphery map image creation request to the image creation processing unit together with the position information (Chou, Fig. 5, Element 502 and GIS, Col 12, Lines 8-9); ... is returned to the map display server application processing unit (Chou, Col 10 Lines 63-65) ...

23. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teaching of Chou into Shah, Hundscheidt, and Phelan. Since Shah, Hundscheidt, and Phelan suggest a system of integrating GPS into a cellular network, whereby a mobile user's position data is kept at a central database,

and Chou suggests enabling mobile user can retrieve map information from a central database, based on user's current position in the analogous art of radio communication technology.

24. As per claim 4, Shah teaches a wireless communications system according to claim 3 (which is rejected as being unpatentable over Shah, US 2004/0023652, in view of Hundscheidt, US 2007/0243821, further in view of Giaffreda, US 2005/0154774), characterized in that: the wireless communication terminal (Shah, Fig. 2, Element 33 and Fig. 1C, Element 10a-e) comprises ... of the wireless communication terminal (Shah, Fig. 2, Element 33 and Fig. 1C, Element 10a-e) ...

25. Shah does not teach ... and the resource server ... from the terminal status table ... However, Hundsteidt teaches ... and the resource server (Hundsteidt, Fig. 1, content provider and multicast source) ... from the terminal status table (Hundscheidt, Fig. 1, HLR) ...

26. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teaching of Hundscheidt into Shah. Since Shah suggests seamless handover for a multi network radio communication system with the help of GPS, and Hundscheidt also suggests multicast for a multi network radio communication system, as it is becoming standard in the Third Generation Partnership Project (Hundscheidt, Paragraph 2) and Hundscheidt better illustrates the elements of a radio access network (Hundscheidt, Fig. 1) in more detail than Shah, in the analogous art of radio communication technology.

27. Shah and Hundscheidt do not teach ... a map display client application processing unit for displaying at least the current position periphery map of the wireless communication terminal; ... comprises an image creation processing unit for creating the map image of an optional position referring to at least previously prepared map data and a map display server application processing unit for sending the map image to the wireless communication terminal, wherein when the map display server application processing unit receives a map image creation request from the map display client application processing unit, the map display server application processing unit ... and the periphery map image created by the image creation processing unit ... and further sent to the map display client application processing unit as a response.

28. However, Phelan teaches ... a map display client application processing unit for displaying at least the current position periphery map of the wireless communication terminal (Phelan, Fig. 1 and Fig. 2); ... comprises an image creation processing unit for creating the map image of an optional position referring to at least previously prepared map data (Phelan, Col 2, Lines 19-25) and a map display server application processing unit for sending the map image to the wireless communication terminal (Phelan, Col 2, Lines 32-35), wherein when the map display server application processing unit (Previously Discussed) receives a map image creation request (Phelan, Col 2, Lines 31-32) from the map display client application processing unit (Previously Discussed), the map display server application processing unit (Previously Discussed) ... and the periphery map image created by the image creation processing unit (Previously

Discussed)... and further sent to the map display client application processing unit as a response (Previously Discussed).

29. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teaching of Phelan into Shah and Hundscheidt. Since Shah and Hundscheidt suggest a system of integrating GPS into a cellular network, whereby a mobile user's position data is kept at a central database, and Phelan suggests a mobile client on a cellular network, (Phelan, Col 8, Line 5), whereby the mobile user can retrieve map information from a central database in the analogous art of radio communication technology.

30. Shah, Hundscheidt, and Phelan do not teach ... obtains the position information ... as well as sends a periphery map image creation request to the image creation processing unit together with the position information; ... is returned to the map display server application processing unit ...

31. However Chou teaches ... obtains the position information (Chou, Fig. 5, Element 501, Col 10, Lines 10-11, *see*, Fig 3 and corresponding disclosure: object history files contain position data of tracked objects, *see also*, Col 11, Lines 1-2) ... as well as sends a periphery map image creation request to the image creation processing unit together with the position information (Chou, Fig. 5, Element 502 and GIS, Col 12, Lines 8-9); ... is returned to the map display server application processing unit (Chou, Fig. 5, Elements 502, 505, 506, and 500, Col 10 Lines 63-65 and Col 12, Lines 8-15) ...

32. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teaching of Chou into Shah, Hundscheidt, and

Phelan. Since Shah, Hundscheidt, and Phelan suggest a system of integrating GPS into a cellular network, whereby a mobile user's position data is kept at a central database, and Chou suggests enabling mobile user can retrieve map information from a central database, based on user's current position in the analogous art of radio communication technology.

### ***Conclusion***

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Doganata, US 2002/0016171 teaches saving the geographical position of a mobile device with GSP at a central and remote database; Srinivasan, US 2002/0022488, teaches the information stored a HLR, such as user status information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES C. JIANG whose telephone number is (571)270-7191. The examiner can normally be reached on M-F: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 517-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. C. J./  
Examiner, Art Unit 2416

/William Trost/  
Supervisory Patent Examiner, Art Unit 2416